US Army Corps of Engineers®

R&D Program: TOWNS

Work Unit: Formulation and Evaluation of Floodproofing Measures

Needs & Problems Addressed:

- Lack of knowledge about available flood proofing options has resulted in many missed opportunities to achieve environmental sustainability in flood protection through floodproofing rather than structural options
- Few tools allow formulation and valuation of benefits

Objectives:

- Provide USACE districts with methodologies to evaluate benefits of floodproofing measures

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Work Unit Funding Profile:

FY03	FY04	FY05	Total
$ 175k	$ 175k	$ 0k	$350k

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Business Program/Missions Areas Supported:

- Inland Navigation __ %
- Coastal Navigation __ %
- Coastal Storm Damage Reduction **30** %
- Inland Flood Control/Damage Reduction **30** %
- Environmental Protection & Quality **20** %
- Multi-Purpose (Hydropower, Rec & Water Supply) __ %
- Emergency Management **20** %
- Regulatory __ %
- Support for Others__ %

(Must to add to 100%) Total: 100 %

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CW Strategic Goals Check List: (check if applies)

- Provide sustainable water resources development & mgmt _X_
- Restore past environment degradation ___
- Provide project services of high quality _X_
- Reduce losses from natural & manmade hazards _X_
- Supports being a world class technical leader _X_
- Addresses strategic or system needs in a framework or integrated approach by developing:
  - Methods or decision support tools _X_
  - Technology to improve life cycle productivity ___
  - Technology to monitor systems, provide feedback and develop operating guidance _X_

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Which “short term” field needs does this support:

- Improves efficiencies in planning Corps flood damage reduction project
- Enhances environmental quality and sustainability through increasing use of nonstructural flood damage reduction measures
- Expedites project level decision-making in planning and design of flood damage reduction measures
- Reduces life-cycle costs through more accurate evaluation of floodproofing measures, leading to increased implementation of these less costly flood damage reduction measures

Field Review Group Relative Ranking:

- FRG planned for 21-22 AUG 02

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Listening Sessions Check List: (check if applies)

- Improves data sharing/exchange with the public in these areas:
  - Provides one stop shop for maps & data for basin wide planning ___
  - Provides data to make informed decisions _X_
  - Provides a system for basin wide planning _X_
  - Provides information about what is happening at Corps facilities ___ (up to date web sites)
- Tech Transfer plan to include educating the public _X_
- Coordinate research, models, analysis with regulatory agencies to insure results will be accepted _X_
- Develop R&D products:
  - For watershed management plans, not just at the project level _X_
  - To include aesthetics as components of all projects _X_
- Create better models for ground & surface water ___

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Products:

- TN: Inventory of Corps & non-Corps flood proofing projects
- TN: Review of analysis procedures for Corps & non-Corps projects
- TN: Results of post-flood study for flood proofing performance
- TN: Review of effect of ice and debris loads on flood proofing reliability
- TN: Review of residual risk concerns with flood proofing
- TN: Standards for flood proofing projects
- ETL: Decision guide to selecting flood proofing measures
- Training material for flood proofing courses

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Benefits

- Direct:
  - Significant economic and environmental savings by providing for method to appraise benefits of floodproofing
- Indirect:
  - Provides fundamental guidance on benefits analysis using flood proofing
  - Enhances capabilities for planning flood damage reduction projects

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Technology Transfer Plan:

- Guidance distributed to USACE districts and other public agencies as well as businesses and other property owners within floodplains through TOWNS websites
- Presentations at various conferences and flood workshops

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Why should the Corps fund this R&D, instead of private industry and/or others:

- Federal/state/local agencies have most need for the results of this research; while private industry is interested in marketing floodproofing measures, they have little incentive in developing methods to evaluate floodproofing measures

What is Impact if not started:

- Lack of methods to formulate and evaluate floodproofing measures will result in continuing under-utilization of these methods and contribute to the use of structural measures when lower-cost flood proofing measures are available